Amendments to the Claims

The following listing of claims replaces all prior versions of the claims and all prior listings of the claims in the present application.

1-37. (canceled)

38. (new) A method for monitoring a tyre during running, comprising:

acquiring and storing, at least temporarily, a first curve representing an acceleration profile of a first point of a tread area of the tyre;

acquiring and storing, at least temporarily, at least one second curve representing an acceleration profile of a second point of the tread area; and

comparing the first curve and the at least one second curve, or parameters derived from the first curve and the at least one second curve, so as to determine a dynamic behavior of the tyre;

wherein the first and second points are located substantially on a same meridian plane of the tyre.

39. (new) The method of claim 38, further comprising:

acquiring and storing, at least temporarily, at least one third curve representing an acceleration profile of a third point of the tread area;

wherein the third point is located substantially on the same meridian plane of the tyre.

40. (new) The method of claim 39, further comprising comparing the first curve, the at least one second curve, and the at least one third curve, or parameters derived from the first curve, the at least one second curve, and the at least one third curve, so as to determine a dynamic behavior of the tyre.

41. (new) The method of claim 38, wherein the first point is located in a first shoulder region of the tread area.

42. (new) The method of claim 41, wherein the second point is located in a second shoulder region of the tread area, and

wherein the second shoulder region is opposite to the first shoulder region with respect to an equatorial plane of the tyre.

43. (new) The method of claim 39, wherein the third point is located substantially on an equatorial plane of the tyre.

44. (new) The method of claim 39, wherein the first, second, and third points are located on an inner surface of the tyre.

45. (new) The method of claim 38, wherein comparing the first curve and the at least one second curve, or parameters derived from the first curve and the at least one second curve,

comprises comparing a distance between characteristic peaks of the first curve with a distance between corresponding peaks of the at least one second curve.

46. (new) The method of claim 38, wherein comparing the first curve and the at least one second curve, or parameters derived from the first curve and the at least one second curve, comprises comparing the first curve and the at least one second curve point-by-point for an entire revolution of the tyre.

47. (new) The method of claim 38, wherein comparing the first curve and the at least one second curve, or parameters derived from the first curve and the at least one second curve, comprises comparing one or more characteristic peaks of the first curve with a corresponding one or more peaks of the at least one second curve.

48. (new) The method of claim 38, wherein comparing the first curve and the at least one second curve, or parameters derived from the first curve and the at least one second curve, comprises comparing an amplitude of one or more characteristic peaks of the first curve with a corresponding amplitude of one or more peaks of the at least one second curve.

49. (new) The method of claim 38, wherein comparing the first curve and the at least one second curve, or parameters derived from the first curve and the at least one second curve, comprises comparing an area under at least one portion of the first curve with an area under a corresponding at least one portion of the at least one second curve.

50. (new) The method of claim 38, wherein comparing the first curve and the at least one second curve, or parameters derived from the first curve and the at least one second curve, comprises comparing a width of at least one portion of the first curve with a width of a corresponding at least one portion of the at least one second curve.

51. (new) A tyre, comprising:

at least one first group of sensors;

wherein the at least one first group of sensors is located in a first circumferential position of the tyre,

wherein the at least one first group of sensors comprises:

a first acceleration sensor; and

at least one second acceleration sensor;

wherein the first acceleration sensor is associated with a first point of a tread area of the tyre,

wherein the at least one second acceleration sensor is associated with a second point of the tread area, and

wherein the first and second points are located substantially on a same meridian plane of the tyre.

52. (new) The tyre of claim 51, wherein the at least one first group of sensors further comprises at least one third acceleration sensor,

wherein the at least one third acceleration sensor is associated with a third point of the tread area, and

wherein the third point is located substantially on the same meridian plane of the tyre.

53. (new) The tyre of claim 51, wherein the first point is located in a first shoulder region of the tread area.

54. (new) The tyre of claim 53, wherein the second point is located in a second shoulder region of the tread area, and

wherein the second shoulder region is opposite to the first shoulder region with respect to an equatorial plane of the tyre.

55. (new) The tyre of claim 52, wherein the third point is located substantially on an equatorial plane of the tyre.

56. (new) The tyre of claim 52, wherein the first, second, and third points are located on an inner surface of the tyre.

57. (new) The tyre of claim 52, wherein a misalignment angle between meridian planes of the first, second, and third points is less than or equal to 5°.

58. (new) The tyre of claim 52, wherein a misalignment angle between meridian planes of the first, second, and third points is less than or equal to 3°.

59. (new) The tyre of claim 52, wherein a misalignment angle between meridian planes of the first, second, and third points is less than or equal to 1°.

60. (new) The tyre of claim 51, wherein the first point is located at a first distance from an equatorial plane of the tyre that is greater than or equal to 15% of an entire width of a tread of the tyre and less than or equal to 30% of the width of the tread, and

wherein the second point is located at a second distance from the equatorial plane of the tyre that is greater than or equal to 15% of the width of the tread and less than or equal to 30% of the width of the tread.

61. (new) The tyre of claim 51, wherein the first point is located at a first distance from an equatorial plane of the tyre that is greater than or equal to 18% of an entire width of a tread of the tyre and less than or equal to 28% of the width of the tread, and

wherein the second point is located at a second distance from the equatorial plane of the tyre that is greater than or equal to 18% of the width of the tread and less than or equal to 28% of the width of the tread.

62. (new) The tyre of claim 51, wherein the first point is located at a first distance from an equatorial plane of the tyre that is greater than or equal to 20% of an entire width of a tread of the tyre and less than or equal to 25% of the width of the tread, and

wherein the second point is located at a second distance from the equatorial plane of the tyre that is greater than or equal to 20% of the width of the tread and less than or equal to 25% of the width of the tread.

63. (new) The tyre of claim 51, further comprising:

at least one second group of sensors;

wherein the at least one second group of sensors is located in a second circumferential position of the tyre, and

wherein the second circumferential position is spaced apart a predetermined angle from the first circumferential position.

64. (new) The tyre of claim 63, further comprising:

at least one third group of sensors;

wherein the at least one third group of sensors is located in a third circumferential position of the tyre, and

wherein the first, second, and third circumferential positions are spaced apart from each other by substantially a same angle.

65. (new) The tyre of claim 51, wherein each of the acceleration sensors comprises an elaboration unit.

66. (new) A wheel for a vehicle, comprising:

a rim; and

a tyre;

wherein the tyre comprises:

at least one first group of sensors;

wherein the at least one first group of sensors is located in a first circumferential position of the tyre,

wherein the at least one first group of sensors comprises:

a first acceleration sensor; and

at least one second acceleration sensor;

wherein the first acceleration sensor is associated with a first point of a tread area of the tyre,

wherein the at least one second acceleration sensor is associated with a second point of the tread area, and

wherein the first and second points are located substantially on a same meridian plane of the tyre.

67. (new) The wheel of claim 66, further comprising another acceleration sensor associated with the rim.

68. (new) A system for monitoring a tyre during running, comprising:

a tyre; and

a receiving device;

wherein the tyre comprises:

at least one first group of sensors;

wherein the at least one first group of sensors comprises:

a first acceleration sensor; and

at least one second acceleration sensor;

wherein the first acceleration sensor is associated with a first point of a tread area of the tyre,

wherein the at least one second acceleration sensor is associated with a second point of the tread area,

wherein the first and second points are located substantially on a same meridian plane of the tyre, and

wherein the receiving device is associated with the at least one first group of sensors.

69. (new) The system of claim 68, wherein the receiving device comprises:

a receiver; and

an elaboration unit.

70. (new) The system of claim 68, wherein the at least one first group of sensors is located in a first circumferential position of the tyre.

71. (new) A method for controlling a vehicle, comprising:

providing at least one first group of sensors in at least one tyre mounted on the vehicle;

acquiring and storing, at least temporarily, at least one first acceleration curve from at least one first acceleration sensor and at least one second acceleration curve from at least one second acceleration sensor;

comparing the at least one first acceleration curve and the at least one second acceleration curve, or parameters derived from the at least one first acceleration curve and the at least one second acceleration curve; and

identifying a maneuver of the vehicle based on the comparison;

wherein the at least one first group of sensors comprises:

the at least one first acceleration sensor; and

the at least one second acceleration sensor;

wherein the at least one first acceleration sensor is associated with a first point of a tread area of the tyre,

wherein the at least one second acceleration sensor is associated with a second point of the tread area, and

wherein the first and second points are located substantially on a same meridian plane of the tyre.

72. (new) The method of claim 71, further comprising:

revealing, from the comparison, whether a critical condition is being reached during the maneuver; and

if a critical condition is being reached, generating a signal adapted to cause a counteraction to control the vehicle.

73. (new) The method of claim 72, wherein the signal is adapted to activate an alarm for a driver of the vehicle.

74. (new) The method of claim 72, wherein the signal is adapted to activate an auto-control system of the vehicle.